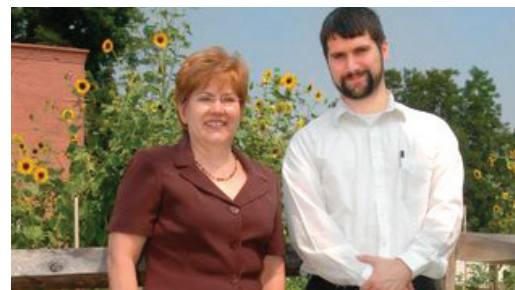




E.J. Underwood (left)
and Tim Troutman



CHALLENGE

To realize more return from fundraising initiatives despite difficult economic times.

SOLUTION

Bootstrap forests, boosted trees and advanced mapping features are among the tools in JMP Pro that are helping Charlotte Rescue Mission solicit donations more efficiently and effectively.

RESULTS

Responses to direct mail have increased by nearly 50 percent since the rescue mission began using JMP software. New tools for data mining and predictive analytics in JMP Pro are bringing in even better responses and supporting relationship-building with donors.

“I can do a lot of things with the click of a button that used to take me a couple of hours. The new tools in JMP Pro are great.”

Tim Troutman
Mass Marketing Manager
Charlotte Rescue Mission

A smarter approach to fundraising

JMP® Pro helps the Charlotte Rescue Mission ‘boost’ contributions

Bootstrap forests and boosted trees may sound like terms you’d expect to hear in an environment-focused nonprofit. But in fact, they refer to statistical algorithms in JMP Pro software that have become everyday tools for the Charlotte (NC) Rescue Mission’s fundraising efforts.

Mass Marketing Manager Tim Troutman uses these features to build predictive models for direct-mail campaigns, the bread and butter of the organization’s fundraising efforts. Bootstrap forests and boosted trees allow JMP users to safeguard against making predictions that are overly optimistic or skewed by the specific data used. Predictive models are more likely to generalize well.

“I used to do bootstrap forests and boosted trees manually,” Troutman says, “and it took a while. Now it’s just a click of a button.

“It makes me feel smart,” he says with a laugh. “No one has to know how easy it is.”

The rescue mission, which provides shelter and other forms of assistance to 152 clients at two facilities, has approximately 110,000 people in its

database – people who have donated at least once.

“With the cost of postage and printing,” he says, “we obviously don’t want to send every one of them a piece of mail. We send probably 25 different packages of mail a year. What I’m using JMP for is to determine the optimal number of people to send a particular piece of mail to and how often.”

‘It’s definitely more competitive these days’

As government funding shrinks and many corporate donors also cut back on charitable giving, it’s a challenging time for the nonprofit world – and more organizations are turning to direct-mail solicitations. That makes things particularly tough for the rescue mission, which has traditionally brought in a strong share of direct-mail donations in the Charlotte area.

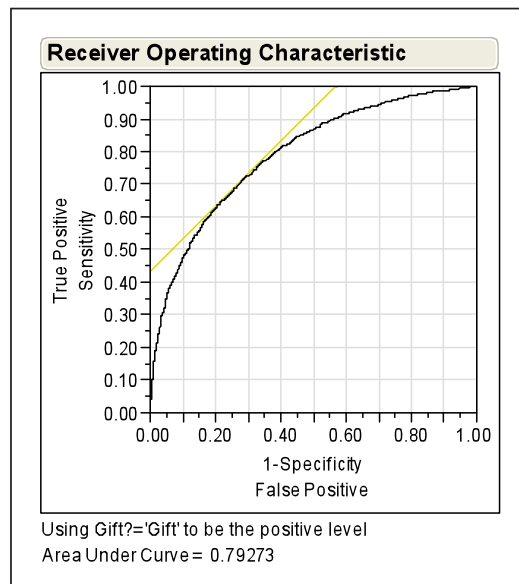
“It’s definitely more competitive these days,” says Troutman.

Direct mail is not only the rescue mission’s primary means of reaching out to potential donors. It’s also a means of communicating to the public how the shelter works and how donations will be put to use.

“A lot of people don’t know what we do here. Too many people think we just serve meals.”

E.J. Underwood

Director of Development



The ROC curve helps determine whether predictive models are useful.

The organization is devoted to spending as little as possible on overhead and as much as it can on helping people turn their lives around. Its mission is to help “individuals caught in the cycles of poverty, hopelessness and chemical addiction by meeting their spiritual, physical, emotional, social and vocational needs.”

“We see success as being clean and sober and able to hold a job,” says Director of Development E.J. Underwood. Staff members and a slew of medical, educational and community service volunteers work with clients to get them on their feet again. Underwood reports that about 70 percent of people who are homeless have substance-abuse problems; about one-third suffer from mental illness.

“A lot of people don’t know what we do here,” she explains. “Too many people think we just serve meals.” The organization does serve a lot of meals – about 185,000 a year, in fact. But spreading the word about the entirety of the rescue mission’s work is one of Underwood’s goals for direct-mail campaigns.

Hitting the right targets is critical, and JMP software has played a big role in helping hone the rescue mission’s accuracy.

Troutman began using JMP about five years ago, when a Bank of America executive who was assisting the rescue mission introduced him to the desktop software.

“I showed him some things I was trying to do in Excel to analyze our mailings at a deeper level than we had

been,” Troutman says. “He told me that what I was trying to do was the right thing, but that I didn’t have the right tool. He told me I should try JMP. And he was right.”

The organization was soon seeing a nearly 50 percent increase in responses to direct mail using JMP.

Then came JMP Pro.

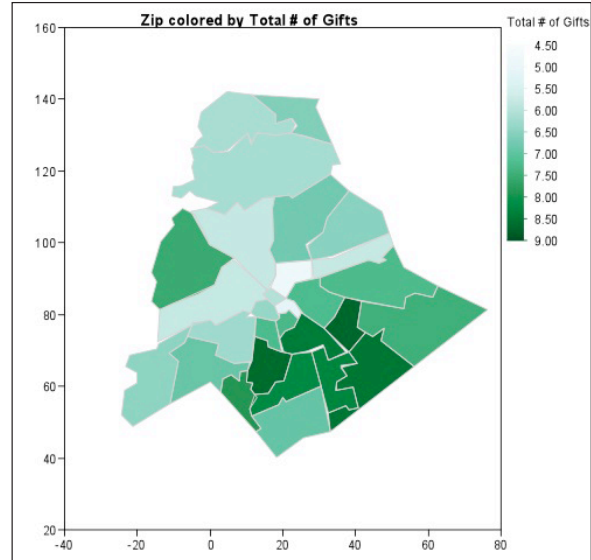
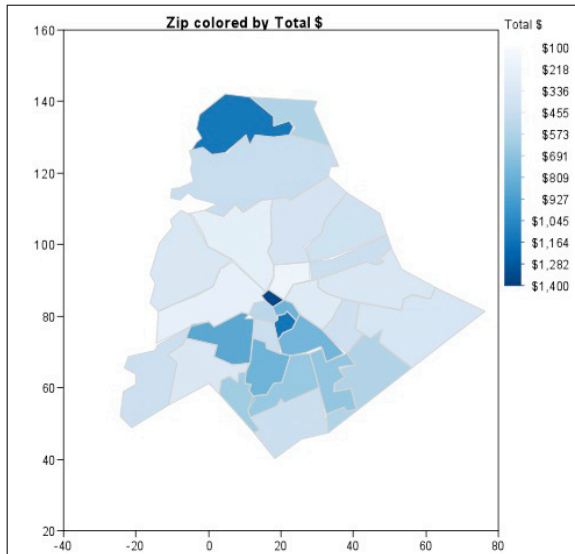
Now much more

Troutman believes that JMP Pro offers a new software option for people who need automated techniques for data mining and predictive modeling. “I can do a lot of things with the click of a button that used to take me a couple of hours to write the script for. The new tools in JMP Pro are great.”

JMP Pro has everything that’s in JMP plus advanced analytic techniques for data mining and predictive modeling.

While JMP 9 brought a revamped Neural platform that includes techniques that allow the user to mine and model data with greater accuracy and flexibility, JMP Pro adds some key options – rich diagnostics and the ability to fit one- and two-layer networks with your choice of activation functions, for example, and the ability to automate the handling of missing values.

The geo-mapping feature is a tool that has Troutman particularly excited.



Using JMP, the rescue mission can map the dollar value and frequency of gifts by ZIP code.

“That’s a really cool feature, and very helpful for what we do, because it helps visualize where our donors are in the county,” Troutman says. “I built a ZIP code map, and I can use that for a number of different applications, like where our donors, our big donors and our super-donors are concentrated.

“We have what we call donor officers, which are basically the non-profit equivalent of salesmen. Their job is to build relationships with our donors, particularly our high-end donors, and develop that friendship person to person.”

With the mapping feature, Troutman can determine where best to assign these officers.

“It just helps so much to visualize it,” Troutman says. While he was aware that a high percentage of donors are

concentrated in a particular region of Charlotte, “when you can visualize it, you see how concentrated they really are there, and that helps us plan events.”

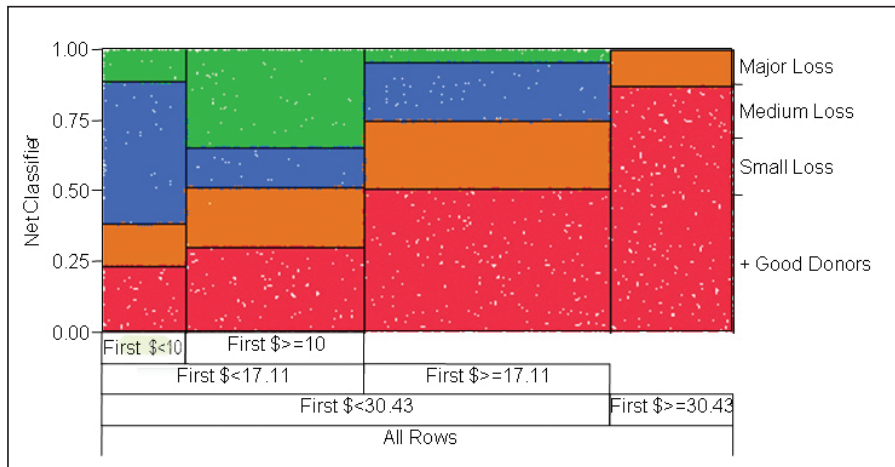
Troutman sometimes uses JMP Pro graphics to present his findings to the rescue mission’s board of directors. “They love it – the visual aspect of it. Of all the things I’ve done in JMP, that’s probably what my boss has liked the best, seeing those maps. I’ve done maybe 20 different analyses with ZIP code or state maps.”

Troutman uses logistic regression to see which factors contribute most to a donor’s response to a solicitation. His first models were simple, but got progressively complex as he became more aware of which factors to con-

sider. He learned that certain data – for example, ZIP code origin and largest gift amount – were of little or no predictive value. By contrast, other data were found to be quite predictive: number of direct-mail gifts and number of days since the donor’s last gift.

He’s built contingency plots and other charts to analyze donors on a macro level. For example, based on an initial gift, what sort of behavior can be predicted about a particular donor?

“We have donors who give that first gift of \$5. And, of course, we’re appreciative for any donation. But from a business standpoint, we have to determine if it’s cost-effective to solicit more from that person. Considering the mail and printing costs involved over the course of a year or two of trying to get that



This mosaic plot from the JMP Partition platform helps the Charlotte Rescue Mission classify donors by expected profitability.

donor to contribute again, we've used up that initial donation and then some."

So Troutman has quantified how much, on average, the rescue mission should spend on a contributor over the course of that person's lifetime as a donor, and found cutoff points.

"If they've given under a certain amount of money, the best thing we can do is say thank you and not approach them again," he explains. "JMP has the analysis tools to do that, whereas with something like Excel, it would take forever, or you wouldn't be able to do it at all."

Better all the time

"Our results continue to improve," Troutman says. "Each time I use JMP, I get a little bit better at it; I think of a different way to approach things. You're never going to get a perfect model, but the model keeps getting better and better. The more data I can put into JMP, the more I can learn from what we've done in the past."

Underwood, the development director, says the next step will be to use JMP to study what aspects of the rescue mission's recovery program contribute most to its

clients' success. By analyzing program data, survey results and exit interviews, she expects to find ways to further improve the program. That, of course, translates to more complete rehabilitations and fewer people who end up back on the streets – the best possible outcome for the mission's supporters and clients alike.



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